

Substitute for form 1449A-B/PTO

INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Complete if Known

Application Number	09/490,643
Filing Date	January 24, 2000
First Named Inventor	Jeremy Minshull
Group Art Unit	
Examiner Name	
Attorney Docket Number	02-020622US

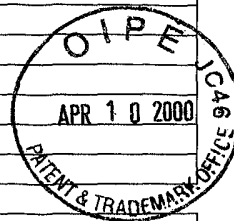
U.S. PATENT DOCUMENTS


Examiner Initials	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, lines, Where Relevant Passages or Relevant Figures Appeal
		Number	Kind Code (if known)			
aw	AA	4,994,379		Chang	02-19-1991	
	AB	5,418,149		Gelfland et al.	05-23-1995	
	AC	5,422,266		Cormier et al.	06-06-1995	
	AD	5,512,463		Stemmer	04-30-1996	
	AE	5,514,588		Stemmer	05-07-1996	
	AF	5,756,316		Schellenberger	05-26-1998	
	AG	5,763,192		Kauffman et al.	06-09-1998	
	AH	5,789,228		Lam et al.	08-04-1998	
	AI	5,795,747		Henco et al.	08-18-1998	
	AJ	5,773,267		Jacobs et al.	09-22-1998	
	AK	5,814,473		Warren et al.	09-29-1998	
	AL	5,824,469		Horwitz et al.	10-20-1998	
	AM	5,830,696		Short	11-03-1998	
	AN	5,876,997		Kretz	03-02-1999	
	AO	5,925,749		Mathur, et al.	07-20-1999	
	AP	5,928,905		Stemmer, et al.	07-27-1999	
	AQ	5,939,300		Robertson, et al.	08-17-1999	
	AR	5,942,430		Robertson, et al.	08-24-1999	
	AS	5,948,666		Callen, et al.	09-07-1999	
	AT	5,958,751		Murphy, et al.	09-28-1999	
	AU	5,962,258		Mathur, et al.	10-05-1999	
	AV	5,962,283		Warren et al.	10-05-1999	
	AW	5,976,862		Kauffman, et al.	11-02-1999	

Examiner Signature	ECW/et	Date Considered	7/17/00
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

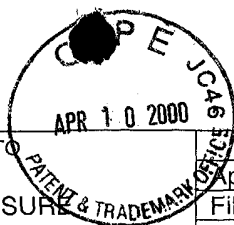
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FOREIGN PATENT DOCUMENTS								
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		Office	Number	Kind Code (if known)				
ew	AX	WO	92/18645		Henco et al.	10-29-1992		
	AY	WO	97/44361		Recombinant Biocatalysis Inc.	11-27-1997		
	AZ	WO	97/48416		Recombinant Biocatalysis, Inc.	12-24-1997		
	BA	WO	97/48717		Recombinant Biocatalysis Inc	12-24-1997		
	BB	WO	97/48794		Recombinant Biocatalysis Inc	12-24-1997		
	BC	WO	98/00826		Recombinant Biocatalysis Inc	01-08-1998		
	BD	WO	98/13485		Maxygen, Inc.	04-02-1998		
	BE	WO	98/13487		Maxygen, Inc.	04-02-1998		
	BF	WO	98/24799		Diversa Corp.	06-11-1998		
	BG	WO	98/27230		Maxygen, Inc.	06-25-1998		
	BH	WO	98/28416		Novo Nordisk A/S	07-02-1998		
	BI	WO	98/31837		Maxygen, Inc.	07-23-1998		
	BJ	WO	98/36080		Maxygen, Inc.	08-20-1998		
	BK	WO	98/48034		Diversa Corp.	10-29-1998		
	BL	WO	98/58085		Diversa Corp.	12-23-1998		
	BM	WO	99/07837		Diversa Corp.	02-19-1999		
	BN	WO	99/08539		Diversa Corp.	02-25-1999		
	BO	WO	99/10472		Diversa Corp.	03-04-1999		
	BP	WO	99/10539		Diversa Corp.	03-04-1999		
	BQ	WO	99/19518		Diversa Corp.	04-22-1999		
	BR	EP	0911396A2		Maxygen, Inc.	04-28-1999		
BS	WO	99/21979		Maxygen, Inc.	05-06-1999			
	BT	EP	0911396A3		Maxygen, Inc.	05-06-1999		

Examiner Signature	<i>ew</i>	Date Considered	7/17/00
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(Modified) PTO/SB/08A-B (10-96)  
Approved for use through 10/31/99. OMB 0651-0031

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9w	BU	WO	99/23107		Maxygen, Inc.	05-14-1999		
	BV	WO	99/23236		Diversa Corp.	05-14-1999		
	BW	EP	0934999A1		Maxygen, Inc.	08-11-1999		
	BX	WO	99/41369		Maxygen, Inc.	08-19-1999		
	BY	WO	99/41383		Maxygen, Inc.	08-19-1999		
	BZ	WO	99/41402		Maxygen, Inc.	08-19-1999		
	CA	WO	99/45154		Diversa Corp.	09-10-1999		
	CB	WO	99/57128		Maxygen, Inc.	11-11-1999		
✓	CC	WO	99/65927		Maxygen, Inc.	12-23-1999		

#### OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T
9w	CD	Christians, F.C. et al., (1999) Directed evolution of thymidine kinase for AZT phosphorylation using DNA family shuffling. <i>Nature Biotechnology</i> 17:259-264.	
	CE	Fullen et al., (1994) "Genetic Algorithms and Recursive Ensemble Mutagenesis in Protein Engineering" Complexity Int'l 1994, printed from website <a href="http://www.csu.edu.au/ci/voll/fuellen/REM.html">http://www.csu.edu.au/ci/voll/fuellen/REM.html</a>	
	CF	Lowman, H.B. et al., (1993) "Affinity Maturation of Human Growth Hormone by Monovalent Phage Display" <i>J. Mol. Biol.</i> 234:654-578.	
	CG	Minshull, J., Stemmer, W.P.C. (1999) Protein evolution by molecular breeding. <i>Current Opinion in Chemical Biology</i> 3:284-290.	
	CH	Patten, P.A. et al., (1997) "Application of DNA Shuffling to Pharmaceuticals and Vaccines." <i>Current Opinion in Biotechnology</i> 8:724-733.	
	CI	Rapley (1994) "Enhancing PCR Amplification and Sequenceing Using DNA-Binding Proteins" <i>Molecular Biotechnology</i> 2:295-298.	
	CJ	Robles et al. (1993) "Hydropathy and Molar volume Constraints on Combinatorial mutants of the Photosynthetic Reaction Center" <i>J. Mol. Biol.</i> 232:242-252.	
✓	CK	Youvan et al. (1992) "Recursive Ensemble Mutagenesis: A Combinatorial Technique for Protein Engineering" from Parallel Problem Solving from Nature, 2, Manner eds., pp. 401-410.	

Examiner Signature	<i>E. W. L. it</i>	Date Considered	7/17/00
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